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ADMINISTRATIVE-INTERNAL USE ONLY

DATA CENTER OPERATIONS BRANCH

NDS OPERATIONS PROCEDURE MANUAL
NO. P-D003

SYSTEMS SW & HW
13 April 1983

DELTA DATA IPL PROCEDURE FOR CMS 6

SYMBOLIC TITLE: N/A
ORIGINATOR:

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P-D005

IPL OF MULTITERMS

CMS 6

GENERAL

Some enhancements have been added to the release version of CMS 6 to facilitate the down line loading sequence.

The network has, in general, been kept the same as TFI. The multiterm is the first PID on a CMS line and this PID is a multiple of 15. There are two exceptions from TFI. Lines 1 and 2 start with PID 15 and 30, respectively. The console PID is Ø (zero).

IPL SEQUENCE

When CMS detects an IPL request, the "line" is prepared for the down line load. CMS network control is automatically scheduled to hold output for all devices on a line (also known as a poll entity). Normally this is followed by a releast of the hold on the multiterm PID or device. The IPL request is then forwarded to TIP to schedule the IPL transaction. This sequence insures that no output, except the down line load, may be transmitted until the IPL completion.

The TIP IPL transaction acts as normal to solicit from the console an IPL file. When this solicit is answered, and no error occurs, the next message is displayed:

"TIP IPL COMPLETE ON CC (PID):...."

All IPL blocks are queued for output at this time, and are in the process of being transmitted. Upon complete transmission of the last IPL block, the C/SP again notifys CMS, this time that the IPL is complete. CMS releases the output hold on the line (or poll entity) and an appropriate message is displayed on the console.

An example of the normal sequence is:

```
*151030 OUTPUT HOLD ON P.E. 64/1
*151030 PID 960 MAY NOW RECEIVE OUTPUT
1-*00727*IPL CC(PID): 000960. SNT
1 S
*00727*TIP IPL COMPLETE ON CC (PID): 00960. BLK 572
*151134 OUTPUT MAY BE SENT TO P.E. 64/1
```

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Note in this example that the time of day is displayed, "*151030", and the line number of the device is indicated in the poll entity (P.E.) messages, "P.E. 64/1", as line 64.

IPL ERROR SEQUENCE

In the case where a line error occurs and the down line load cannot be completed, an altered sequence is indicated. CMS will display an error message followed by an output hold on the device.

An example of this is:

```
*152030 OUTPUT HOLD ON P.E. 41/1
*152030 PID 615 MAY NOW RECEIVE OUTPUT
1-*00728*IPL CC(PID): 000615. SNT
1 S
*00728*TIP IPL COMPLETE ON CC(PID): 000615 BLK 572
CSP FAIL TO SEND OUTPUT TO TERMINAL.
*152231 OUTPUT TO PID 615 IS NOW HELD
```

With these two sequences, the operator knows the status of all IPL's (completion or non-completion). He must also take the responsibility of releasing message blocks queued to the multiterm PID, in the case of non-completed IPL's. Downing and upping the subsystem, unit no longer guarantees the release of compool queued as the result of an in complete IPL. This must be done by message "Purge" keyins.

MESSAGE PURGE

Releasing queued blocks held on a device queue can be accomplished by one of two methods with network keyins.

The first method is by soliciting the number of messages queued to a device on the deferred queue, then keying a "Purge" command to delete that number of messages.

The second method is to choose a large number to delete which would typically be larger than the number of queued messages on a device, and to use this in the "Purge" command.

In both methods, the response to the "Purge" will tell the number of messages actually deleted, and in turn, the compool for those messages will be released.

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In the case of the multiterm IPL, the purge should be followed by a release of the hold on the multiterm PID so that subsequent IPL's may be processed.

Examples of the purge process are:

An IPL request has been processed and a non-completion occurred. The last CMS message was:

CMS*152231 OUTPUT TO PID 615 IS NOW HELD

The operator must solicit input from CMS:

```
II CMS                          -KEYIN (-K)
O-ENTER FUNCTION                -RESPONSE (-R)
```

Two responses may be made:

Example 1:

```
O /MSG DT 615                                -K
  NUM. OF MAIN QUEUE ITEMS =Ø                -R
  NUM. OF DEFERRED QUEUE ITEMS =35Ø          -R
O-ENTER FUNCTION                             -R
O /DEL DT 615 35Ø                            -K
  35Ø MSGS DELETED FOR PID 615               -R
O-ENTER FUNCTION                             -R
O /REL DT 615                                -K
  OUTPUT MAY BE SENT TO PID 615              -R
O-ENTER FUNCTION                             -R
```

Example 2:

```
O /DEL DT 615 60Ø                            -K
  31Ø MSGS DELETED FOR PID 615               -R
O-ENTER FUNCTION                             -R
O /REL DT 615                                -K
  OUTPUT MAY BE SENT TO PID 615              -R
O-ENTER FUNCTION                             -R
```

ERROR SEQUENCE - ADDITIONAL EXAMPLE

Part of the error recovery in the down line load sequence is the return of the line to normal polling. The result of the polling resumption may generate a new IPL request immediately after the previous termination. This occurance is still within operator control, but should be recognized by the operator to take the proper procedure.

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An example of this is shown:

```
1{  *152030 OUTPUT HELD ON P.E. 41/1
    *152030 PID 615 MAY NOW RECEIVE OUTPUT
    1-*00728*IPL CC(PID): 000615. SNT
2{  1 S
    *00728*TIP IPL COMPLETE ON CC(PID): 000615

3{  CSP FAIL TO SEND OUTPUT TO TERMINAL.
    *152231 OUTPUT TO PID 615 IS NOW HELD
    *152232 OUTPUT ALREADY HELD ON P.E. 41/1
4{  1-*00731*IPL CC(PID): 000615. SNT
5{  II CMS
    0-ENTER FUNCTION
    0 /DEL DT 615 60
    6325 MSGS DELETED FOR PID 615
    0-ENTER FUNCTION
6{  0 /REL DT 615
    OUTPUT MAY BE SENT TO PID 615
    0-ENTER FUNCTION
7{  1 S
    *00731*TIP IPL COMPLETE ON CC(PID): 00615
8{  *152615 OUTPUT MAY BE SENT TO P.E. 41/1
```

This latter example demonstrates the complete sequence such that:

1. An initial IPL request was received,
2. The IPL was initiated,
3. A line error occurred and the output was held for the multiterm,
4. The C/SP re-initialized the line and a subsequent IPL request was received,
5. The operator deleted the previous message blocks (compool) from the IPL,
6. The operator released the hold on the multiterm PID,
7. The operator initiated a second IPL,
8. The IPL completed and the line (or Poll entity) was released of the output hold.

It may also be appropriate to enter "TP" keyins during the recovery sequence to insure that compool is being recovered by the "purge" or /DEL keyin.

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SPEED LETTER	REPLY REQUESTED YES X NO	DATE 13 July 1977 LETTER NO.
TO : All 1110 Computer Operators ATTN:	FROM: [redacted] STAT	

Please notify PSS when the 1110 is down for any reason. This is so PSS can notify [redacted] STAT users, who call with Delta Data problems, that it is probably because the system is down.

Thank you,

[redacted] STAT

SIGNATURE

REPLY	DATE

SIGNATURE

RETURN TO ORIGINATOR

FORM 5-67 1831 USE PREVIOUS EDITIONS

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DELTA DATA NDS TERMINAL SECURE/ENABLE PROCEDURE

1. In order to disconnect the terminals from the system or secure the terminals, the vault duty officer or the area duty officer should follow the following procedure:

a. At the Delta Data MultiTerm, place the two toggle switches in the NORM position..

b. Depress the "reset" button - this will clear the screens of all the terminals connected to the MultiTerm.

c. Place the right toggle switch in the "test" position - this disables the synchronous clock to the 1110 system there by disabling all transmissions to/from the 1110.

d. If the above procedures do not clear the information on each CRT screen, the CRT terminals should be turned off. This can be accomplished by placing the toggle switch located just to the left of center under the front of the screen to the rightmost position.

2. Each morning at the Delta Data MultiTerm, the right toggle switch should be placed in the "NORM" position and the "RESET" button depressed - this will enable the clock and prepare the MultiTerm for reception of polls from the 1110.

3. Hardware problems with your terminals should be reported to Computer Operations Branch [redacted] Provide them with information on problem symptoms, Terminal ID #, location, name and telephone number. Should other assistance be required regarding computer system availability or "down line loading" of the Delta Data MultiTerm, call Computer Operations, [redacted] NEVER POWER DOWN THE MULTITERMS. STAT STAT

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1110 OPERATIONS AND ERROR RECOVERY FOR DELTA DATA CLUSTER CONTROLLER IPL

IPL OPERATIONS

PRE IPL PROCEDURE:

Prior to answering IPL requests do a "TP QUE" and check and assure OUTQ is Ø. If Ø, it is ok to answer IPL request. If OUTQ is filling up the compool is being filled and CMS and/or TIMER is probably hung. You should not IPL any clusters with anthing in OUTQ.

Answer only 1 IPL request at a time. Wait for "TIP IPL COMPLETE" message, and check C/SP line to stop outputing. You may now answer a second IPL request.

Every IPL request will generate a console solicit message:

1 - *00007*IPL CC(PID): 000010. SNT

TIP UNIQUE RUN-ID PID NUMBER

This message is always answered with a "S" (Standard file). Once the solicit is answered the remainder of the cluster controller IPL should be automatic. The message:

*00007*TIP IPL COMPLETE on CC(pid#): 000010 BLK XXX

is displayed at the time all messages are queued to be sent to the cluster. The cluster controller is not fully IPL'ed at the time this message is displayed, however, the IPL should complete and start polling the cluster controller automatically.

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ERROR RECOVERY

If the message:

OTPUT CC error code ON PID Pid#

is displayed on the console a output error has occurred during the IPL and the procedure below must be followed exactly in order to recover the line.

SAMPLE CONSOLE MESSAGE	ACTION REQUIRED
1. CMS* OTPUT CC 7 ON PID 70 1-*00060*IPL CC(pid#): 000070 - SNT 1 T	NONE Message must be answered with a T.
IPL ERROR *00060 *** IPL TERMINATED ON CC(pid#) 000070	
2. Ø FREE 7 Ø-CMS*EXT: C,S*FREE*OKAY*	
3. DN 7/12	The line associated with the output error must be DN'ed.
7/12 DN CMS	

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4. UP 7/12

The line associated with the output error must then be UP'ed.

5. O ASGN 7

O-CMS*EXT:

CMS*ASGN *OKAY*

The line must be assigned to CMS.

11/20 14:30

Note: There may be a few minutes wait after line is assigned & before Step 6 appears.

6. 1-*00062*IPL CC(pid#): 000070 SNT

1 S

Answer solicit with "S"

The IPL should now automatically run to completion.

If the IPL program errors, an error message is displayed on the console as below:

IPL ERROR

In this case the error recovery listed above (starting with Step 2) must be followed to recover the line.

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1. HIT PA4 KEY UNTIL GET SIGNON DISPLAY TWICE
2. FILL IN SIGN-ON WITH ALL X's
   EXCEPT MODE - USE DEMN FOR MODE
3. HIT XMIT
4. ENTER "FUN/FUN" HIT XMIT
5. ENTER "OLD: _____" (GAME NAME) HIT XMIT
6. ENTER "RUN" HIT XMIT

USE "STOP" TO GET OUT

TICTACTOE
HANG
QUBIC

DO @@TERM + START OVER IF HUNG UP

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